

A NEW SPECIES OF *HETEROMURUS* FROM PUERTO RICO (COLLEMBOLA: ENTOMOBRYIDAE)¹

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ABSTRACT: *Heteromurus (Heteromurtrella) tihuiensis* n.sp. is described based on specimens collected in the Caribbean National Forest, Puerto Rico. The species is very close to *H. (H.) echinatus* Mari Mutt 1983 from Venezuela, but differs by the absence of the mucronal spine and its somewhat shorter dental spines. A study of the postembryonic development of various characters revealed, among other things, that the dental spines of *H. tihuiensis* appear when specimens reach a length of about 1.45 mm.

RESUMEN: Se describe la nueva especie *Heteromurus (Heteromurtrella) tihuiensis* con base en ejemplares colectados en el Bosque Nacional del Caribe, Puerto Rico. La especie es muy parecida a *H. (H.) echinatus* Mari Mutt 1983 de Venezuela pero se distingue por no poseer espina mucronal y por la menor longitud de sus espinas dentales. El estudio del desarrollo postembrionario de varios caracteres reveló, entre otras cosas, que las espinas dentales de *H. tihuiensis* aparecen cuando los ejemplares alcanzan cerca de 1.45 mm de longitud.

During a recent visit to the Caribbean National Forest, I collected specimens of a *Heteromurus (Heteromurtrella)* with dental spines. Only one member of this subgenus was known to possess these spines, *H. echinatus* Mari Mutt 1983, described from a cloud forest in Merida, Venezuela. The Puerto Rican specimens are very similar to those from Venezuela but seem to differ enough to warrant the erection of a new species.

Heteromurus (Heteromurtrella) tihuiensis n.sp.

Length to 2.3 mm. Background white with scarce light orange pigment evenly dispersed over head and body. Scales absent from last two antennal segments, collophore, and tibiotarsi of pro- and mesothoracic legs. Apex of fifth antennal segment with bifurcated pin seta and a conspicuous, thick, hooked seta (Fig. 4). Head macrochaetotaxy as in Fig. 1. Eyes 2+2 on dark patches. Prelabral and labral setae smooth. Outer labral papillae domelike, inner papillae conelike. Setae of anterior labial row smooth. Posterior labial row to seta *e* with one smooth seta and 1-4 ciliated setae; *e* and 1₂ smooth, 1₁ ciliated. Setae of maxillary palp smooth, lanceolate, subequal in length. Differentiated seta of outer labial papilla does not reach apex of its papilla. Along cephalic groove 2+2 smooth setae (post-labial quadrangle) and near posterior margin of head 2+2 very finely ciliated setae, other setae on venter of head smooth or ciliated. Body macrochaetotaxy as in Fig. 2. Tibiotarsi without smooth setae except for supraempodial seta (opposite seta) of metathoracic legs. Tenent hairs lanceolate. Unguis with large basal pair of teeth and no unpaired teeth. Unguiculus with conspicuous outer tooth. Tenaculum with 1 seta. Dorsum of manubrium with many ciliated setae, scales, and two parallel longitudinal rows of 3+3 or 4+4 smooth erect setae, a pair of smooth setae also on base of dentes. Inner margin of dentes with a row of up to 11 spines (Fig. 3). Mucro without

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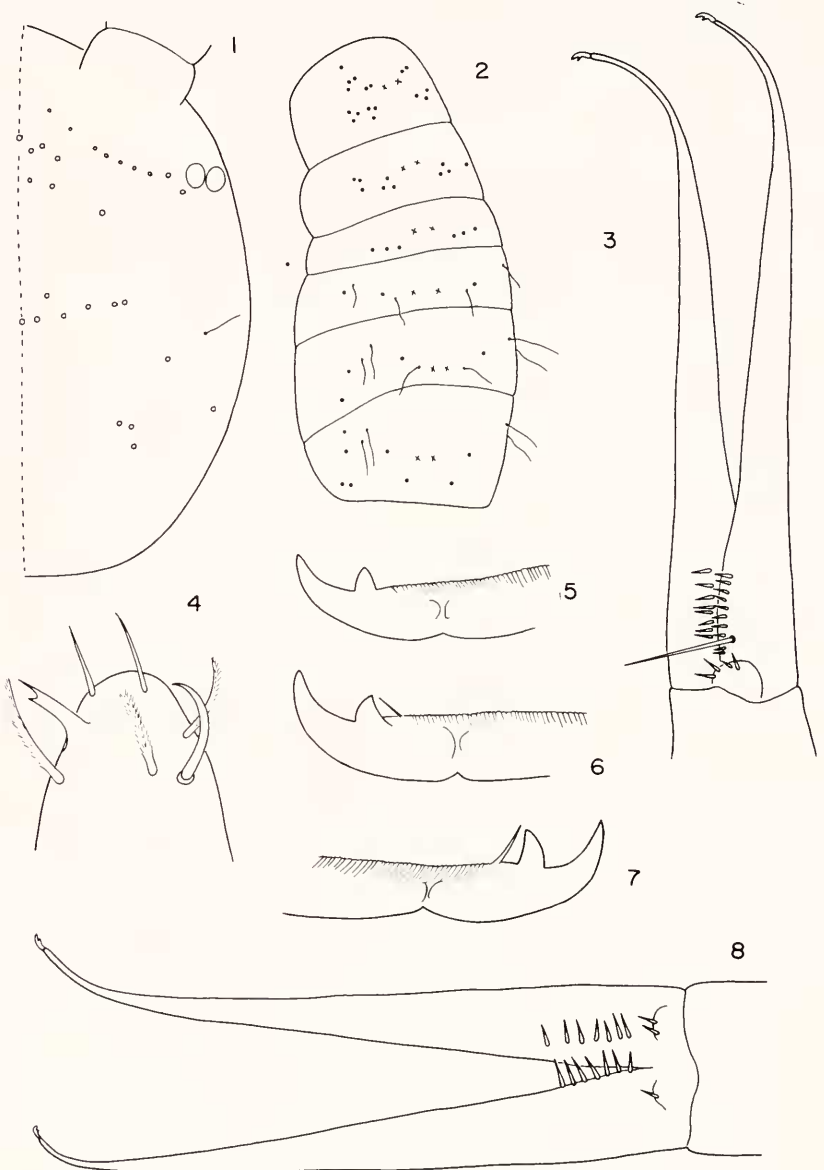


Fig. 1-6. *Heteromurus (Heteromurtrella) tihuiensis* n.sp., Fig. 7-8. *H. (H.) echinatus* Mari Mutt. 1. Head macrochaetotaxy, 2. Distribution of body macrochaetae and pseudopores (x). 3. Distribution of dental spines, 4. Apex of fifth antennal segment, 5-7. Mucrones, 8. Distribution of dental spines.

basal spine (Fig. 5) or exceptionally with a very slender, needlelike, inconspicuous spine (Fig. 6).

Type Locality: Puerto Rico, Sierra de Luquillo, Caribbean National Forest, Rd. 191, near the swimming pools, wet leaf litter, 12.VIII.1984, J.A. Mari Mutt, holotype and 26 paratypes (22 on slides). All specimens are deposited in my collection.

Diagnosis. As stated in the introduction, the new species is very close to *H. echinatus*. Specimens of the latter, however, possess a conspicuous mucronal spine (Fig. 7) seen easily even at low (200x) magnifications. Only two of the 23 specimens studied of *H. tihuiensis* possess a mucronal spine, and it is invariably slender, needlelike, scarcely visible even under oil immersion. In addition, the dental spines of *H. echinatus* are somewhat longer than those of *H. tihuiensis* (cf. Fig. 3. 8). Some specimens of *H. echinatus*, particularly those over 1.6 mm long, possess an inner anterior macrochaeta on the fourth abdominal segment but no Puerto Rican individual has this seta. My description of *H. echinatus* states that seta 1_1 is smooth but it is really ciliated as in *H. tihuiensis*.

Comments. The head and body macrochaetotaxy is identical in all specimens, including those measuring only 0.95 mm. These small specimens possess 5-7 *An* setae (setae along the base of the antenna), 1 + 1 setae near the posterior ventral margin of the head, one ciliated seta internal to labial seta *e*, and 5-9 setae on the trochanteral organ. They lack dental spines and scales on the dorsum of the manubrium, all tibiotarsi, and the femur of the first pair of legs.

The number of *An* setae increases to a maximum of 10-12 by the time specimens are about 1.4 mm long. The second seta near the posterior ventral margin of the head appears when specimens reach 1.1 mm. The number of ciliated setae internal to labial seta *e* increases with size of the specimens but occasionally, smaller individuals with more ciliated setae are found. The number of setae on the trochanteral organ also increases with age to a maximum of 28 setae in specimens over 2.0 mm long. Dental spines appear when specimens reach 1.45 mm, but intermediate, somewhat pointed, finely ciliated setae are found in the position of the dental spines when specimens reach 1.2 mm. Scales appear on the femur of the prothoracic legs when specimens reach 1.2 mm and on the tibiotarsi of the metathoracic legs when specimens attain 1.0 mm.

The species name is based on the native indian (taino) word *tihui*, meaning mountain, in reference to the habitat occupied by this species.

LITERATURE CITED

- Mari Mutt, J.A. 1983. Four new species of *Dicranocentrus* and *Heteromurus* from the State of Mérida, Venezuela (Collembola: Entomobryidae). *J. Agr. Univ. P.R.* 67(2): 148-164.